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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/745,590	12/21/2000	Sten A. Wallin	44501A	2044

109 7590 04/07/2004

THE DOW CHEMICAL COMPANY  
INTELLECTUAL PROPERTY SECTION  
P. O. BOX 1967  
MIDLAND, MI 48641-1967

EXAMINER

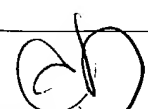
ELVE, MARIA ALEXANDRA

ART UNIT PAPER NUMBER

1725

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/745,590	<b>Applicant(s)</b> WALLIN ET AL.	
	<b>Examiner</b> M. Alexandra Elve	<b>Art Unit</b> 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. <u>4/3/04</u> |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                                |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/25/01</u> . | 6) <input type="checkbox"/> Other: ____  |

**DETAILED ACTION**

***Oath/Declaration***

Applicant is now required to submit a substitute declaration or oath to correct the deficiencies set forth in the interview (3/1/04).

***Claim Rejections - 35 USC § 112***

Claims 1-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant states a "box counting dimension" in instant claims. It appears from the reading of the specification that this "dimension" is based on a software product and entails parameters of pore size and number of spheres, that is, a pore channel size. The use of a non-standard, such as a software program is viewed as indefinite, because these programs may change over time, much the same as using a trademark in a claim. Consequently, the use of a non-standard, that is a software variable is deemed indefinite.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 & 4-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Guile et al. (US Pat. 5,716,899).

Guile et al. discloses a body made up of a high strength support having porous walls. The wall porosity is greater than 45 to 55% by volume. Average pore diameters are 15 to 30 microns. The pore impregnated body is a high strength multicellular support having cell walls separating the cells from one another and pores in the cell walls and an outer surface and active material embedded in the pores in the walls. The support is made up of a ceramic, glass, glass-ceramic, cermet, metals, oxides or combinations of these. The porous metal bodies may be made of iron/aluminum or iron/chromium/aluminum. Porosity amounts may vary depending on the required application. Higher porosities, that is, 55% are preferred for ceramic supports such as cordierite and/or mullite. These structures may be used for catalytic converter applications, for example with automotive exhaust gases. Molecular sieves, which may be used, are carbon molecular sieves, zeolites, aluminophosphates, metallophosphates, silicoaluminophosphates and combinations thereof. In addition, noble metals such as Pt, Pd and Rh may be used on substrates, such as oxides, alumina, silica, zirconia, titania, rare earth oxides, ceria and lanthana. (abstract, figure 1, col. 2, lines 25-50, col. 3, lines 40-47, col. 4, lines 1-40 & 53-63, col. 6, lines 17-45, col. 7, lines 20-25, col. 12 & 13)

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guile et al., as stated in the above paragraph and further in view of Moyer et al. (US Pat. 5,194,154).

Guile et al. teaches the use of mullite, but not acicular mullite. Moyer et al. discloses the use of acicular mullite in fluid separation filters. Acicular mullite is used because fusion or sintering the acicular structure promotes interlocking and hence yields a higher strength sintered structure. (abstract, col. 6, lines 34-62)

It would have been obvious to one of ordinary skill in the art at the time of the invention to use acicular mullite as taught by Moyer et al. in the Guile et al. system because the acicular structure yields a higher strength support.

Claims 23-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guile et al., as stated in the above paragraph and further in view of Fukui et al. (US Pat. 5,569,455).

Guile et al. discloses the use of a catalytic converter, but does not teach structural limitations. Fukui et al. discloses a catalytic converter, which has a carrier

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layer and bonded structures. Examination of the figures shows inflow (inlet) and outflow (outlet) in the converter. Porosity in the converter may be as high as 80 to 90%.

(abstract, figures 6 & 12-19, col. 5-8)

It would have been obvious to one of ordinary skill in the art at the time of the invention to have converter features, as taught by Fukui et al. in the Guile et al. system because these are standard features of catalytic converters applications, for automotive exhaust gases.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See US PTO-892.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 6:30-3:00 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 3, 2004.



M. ALEXANDRA ELVE  
PRIMARY EXAMINER